- 21. (New) The composition according to claim 20, wherein the number-average primary size of the nanoparticles is between 5 and 50 nm.
- 22. (New) The composition according to claim 20, wherein the nanoparticles comprising at least 10% by weight of alumina additionally comprise a metal or semimetal oxide other than alumina.
- 23. (New) The composition according to claim 22, wherein the metal or semimetal oxide is silicon oxide or boron oxide.
- 24. (New) The composition according to claim 20, wherein the nanoparticles comprise at least 50% by weight of alumina.
- 25. (New) The composition according to claim 20, wherein the nanoparticles are formed of more than 90% by weight of alumina.
- 26. (New) The composition according to claim 20, wherein the alumina is alumina or hydrated alumina.
- 27. (New) The composition according to claim 26, wherein the alumina is boehmite.
- 28. (New) The composition according to claim 20, wherein the amount of the nanoparticles is between 0.01 and 30% by weight with respect to the total weight of the composition.
- 29. (New) The composition according to claim 28, wherein the amount of the nanoparticles is between 0.05 and 5% by weight with respect to the total weight of the composition.
- 30. (New) The composition according to claim 20, wherein the propellant is dimethyl ether or a mixture containing dimethyl ether.

- 31. (New) The composition according to claim 20, wherein the propellant is present in an amount of between 2 and 90% by weight with respect to the total weight of the composition.
- 32. (New) The composition according to claim 31, wherein the propellant is present in an amount of between 40 and 80% by weight with respect to the total weight of the composition.
- 33. (New) The composition according to claim 20, wherein the cosmetically acceptable medium comprises water, a cosmetically acceptable solvent or water and a cosmetically acceptable solvent.
- 34. (New) The composition according to claim 33, wherein the solvent is a lower C_1 - C_4 alcohol, a polyol, a polyol ether, acetone, or a mixture thereof.
- 35. (New) The composition according to claim 34, wherein the solvent is ethanol.
- 36. (New) The composition according to claim 33, wherein the water represents less than 20% by weight of the composition.
- 37. (New) The composition according to claim 20, wherein the liquid phase additionally comprises a cosmetic additive which is an adhesive agent, a reducing agent, a fatty substance, a thickening agent, a softener, an antifoaming agent, a screening agent, an antiperspirant, an acidifying agent, a basifying agent, a dye, a pigment, a fragrance, a preservative, a surfactant, a fixing or nonfixing polymer, a volatile or nonvolatile silicone, a vegetable, animal or mineral oil, a protein or vitamin, or mixtures thereof.
- 38. (New) The composition according to claim 37, wherein the composition further comprises a vinyllactam homopolymer or copolymer.

39. (New) A process for the cosmetic treatment of hair, comprising applying to the hair and optionally rinsing the hair after an optional setting time a composition discharged from an aerosol device, the composition packaged in the aerosol device comprising in a cosmetically acceptable medium, nanoparticles comprising at least 10% by weight of alumina and having a number-average primary size of between 2 and 200 nm, and a propellant which is dimethyl ether, a C₃₋₅ alkane, 1,1-difluoroethane, a mixture of dimethyl ether and a C₃₋₅ alkane, a mixture of 1,1-difluoroethane and dimethyl ether or a C₃₋₅ alkane, or a mixture of 1,1-difluoroethane and dimethyl ether and a C₃₋₅ alkane.

40. (New) The process of claim 39, wherein the composition is a styling product.

41. (New) The process of claim 39, wherein the composition is a leave-in styling product.--